

Enterprise Network Replacements

Questions & Answers

July 27, 2012

1. Page 5 – For the fiber optic network connections specified and proposing network equipment optical transceivers, should a single-mode or multi-mode fiber optic network be assumed?
 - *Optical fiber media between facilities is single mode*
2. Page 7 - For IPSec related systems are there any mandatory cryptography suites/authentication methods that must be supported in order to interact with external resources (e.g. NORCOM)?
 - *Yes, a minimum of AES128 must be supported for all Criminal and PCI related data (HIPAA in the future). Although AES192 is preferred as the minimum.*
3. Page 8 – Regarding Support and Maintenance contracts: certain manufacturers provide discounted pricing of packages for extended term packages (e.g. 2, 3, 5 year term packages) versus purchasing and renewing a one-year term annually for the expected coverage period (5 years). Is the preference of City of Kirkland to receive proposals for support and maintenance contracts on an annual reoccurring payment term, or where possible purchase the longer-term 5 year package if the total cost of this coverage is discounted in the longer-term packages?
 - *The preference is to obtain the best "total cost of ownership" for the stated 5-year period for the entire vendor proposed solution. Each major component of the solution shall be stated separately (as noted in the RFP) to allow the owner an opportunity to review the cost of providing "hot spare" components in lieu of support contracts.*
4. Page 12 – Regarding proposal submission requirements, both physical and electronic submittal instructions are specified, are both a physical and electronic copy required for successful RFP submittal or are electronic only submittals acceptable? The Non-Collusion Certificate lists verifications requirement of a Notary Public, is an electronic only submittal of this (and other) forms acceptable?
 - *Either hard copy or electronic proposals are acceptable. Yes, an electronic only submittal of the Non-Collusion Certificate (and other forms) is acceptable.*

5. Should vendor's proposal goal assume a replacement approach for current design/architecture (i.e. modernize the equipment but keep the existing architecture), or where improvements can be realized in network architecture assume these areas are open to discussion and re-design with the customer?
 - *The proposal's goal is to replace the active network while improving upon the resiliency of the existing network. Logical architecture is expected to change however the physical architecture (locations of optical fiber connections, Equipment rack locations, structured cabling, Etc.) is not expected to change.*
6. Should vendor budget for reasonable time toward discovery and redesign of network architecture with customer?
 - *Yes*
7. What is the speed of the circuit and physical connection going to the Fire Stations (24-25)
 - *Full T-1 to each location*
8. What is the speed of the circuit and physical connection from City Hall to the internet through the 2611M Gateway Router
 - *ISP Service is provide and 3up / 3down with a 6MB burst. The physical interface is 10/100*
9. What is the speed of the circuit and physical connection to DIS, out of city hall
 - *The link speed to/from Olympia is 128k running on a CISCO CSU configured for Frame.*
10. What switch is being used at the Fire Training center
 - *CISCO 3560/8 w/2xSFP and 8 10/100 ports*
11. Are there any locations, other than city hall, where multiple switches will be stacked
 - *Quantity of ports is stated. The density and configuration of switches is at the discretion of the proposer.*
12. What are the specific requirements around IPv4 and IPv6 support in the switches?
 - *Proposed equipment shall be capable of supporting full native versions of both standards.*
13. What type of support is required? I.e. 24/7/NBD, etc.

- *For the purposes of this RFP, provide pricing for NBD replacement. Critical areas of the network will be reviewed with the successful bidder, and if deemed necessary by the City of Kirkland, shorter interval replacement may be negotiated.*
14. How many staff members would require training for configuration and managing of the switches, routers, firewalls, etc.?
 - *3 to 4*
 15. Is the City of Kirkland willing to entertain an Ethernet fabric to help manage your VM hosts?
 - *Yes, provided it meets the requirements of the city and of this RFP.*
 16. Is there a requirement to have single pane of glass to manage their SAN, LAN, and wireless infrastructure; or would they prefer to manage each individually. Would that type of management system be preferred?
 - *This is not a requirement of the RFP however any item that adds value to the proposed solution will be evaluated*
 17. Does CoK share the current detailed network configurations and diagram?
 - *Detailed configuration files for all equipment will be shared with the successful proposer.*
 18. Can CoK share the physical map of all the locations along with distances?
 - *We will share this map with the successful vendor. For the purpose of responding to this RFP, if this is about needing distances to cost out fiber modules, all modules need to cover 15k as a standard, except for the connections between Kirkland City Hall and Bellevue City Hall which should be up to 40k.*
 19. Who is responsible for interconnection between Core and SAN RFP?
 - *SAN is connected to the enterprise network. This RFP is to replace the enterprise network.*
 20. What is the rack space during (temporary) and after the project at Bellevue DC.
 - *We will coordinate with the successful vendor and the City of Bellevue to provide temporary rack space if needed.*
 21. Are there any specific Certifications required by CoK for the project?
 - *The RFP requires training sufficient to be proficient at the management and administration of the proposed system.*

22. Is current network routed or switched primarily?
- *Primarily switched (All branch locations) and routed only at the central core.*
23. Does CoK want additional design incorporation into the network in addition to replacement of old equipment?
- *The RFP states the existing conditions and equipment. The proposer is expected to use this information to develop a complete replacement solution. Enhancements and changes to the logical configuration are expected.*
24. Is client open to redesign of network, routing vs. switching or mpls?
- *Yes, however overly complex solutions do not contribute to the overall goals of this RFP. Please note that training and the skillsets required for on-going support and maintenance of the environment will be a consideration for award.*
25. Is there any existing Transport in place? Or client likes to use Long Reach fibers in the Core Switch or router?
- *The majority of backbone connections utilize customer-owned dedicated optical fiber.*
26. Is the current network IPv4 or IPv6?
- *IPv4*
27. Is the Power supply AC or DC?
- *AC*
28. Does the RFP require supply of SFP? If yes, what type? And how many?
- *The network design is the responsibility of the proposer. All existing equipment is expected to be replaced through this RFP.*
29. Is the single line drawing reflection of correct inventory and type of equipment required?
- *The one-line drawing indicates the current environment. The design for replacement of the existing environment is the responsibility of the vendor.*
30. Fire Station 24 and Fire Station 25 are linked through demarc lines. Is the equipment considered for RFP replacement as well?
- *These locations are connected via T-1 and replacement equipment will need to support the existing connection.*

31. Should the vendor be aware of any requirements from Access or Fan out switches?
- *The one-line drawing indicates the current environment. The design for replacement of the existing environment is the responsibility of the vendor.*
32. 4 Switches at Bellevue Data Center are they independent or cascaded (acting as one switch)?
- *They are Stacked/Cascaded .*
33. POE switches are required to be POE+, will there be any case where mix of POE and POE+ required, if any can that be identified?
- *For the purposes of this RFP, the proposer shall be permitted to specify 802.3af (standard POE) for client connections.*
34. Are fiber runs Single Mode, Multi Mode, or a Mix? If a mix how many of each type and which runs are Single Mode and which are Multi Mode?
- *For the purposes of this RFP, all site to site optical fiber backbone connections are single mode.*
35. If Multi Mode fiber is it 62.5 or 50 micron? If a mix how many of each and where are the 62.5 and 50 micron runs?
- *For the purposes of this RFP, all site to site optical fiber backbone connections are single mode.*
36. Can we get a closet count per building/floor, locations of the closets on a floor plan, and port count per closet?
- *All buildings have a single telecommunications room for all equipment and connections (including city hall)*
37. How many concurrent VPN sessions do you use today at peak use? Is that expected to grow in next 3 to 5 years and if so how much would you project that growth to be?
- *We can support up to 250 but the peak load is usually less than 50 at any given time. The only time that we might need approach the 250 is if we had a pandemic or some natural disaster that required unusual amounts of remote connectivity.*
38. Are there any remote user initiatives? Work from home? "Snowday," management, or emergency remote access for example.
- *While the practice is currently limited, the proposed infrastructure should be scalable to support wider application of this approach.*

39. Is the wired user count expected to grow in the next 3 to 5 years and if so by how much?
- *The proposed system should be scalable to accommodate a minimum of 10% per year.*
40. How do users authenticate with their allowed network resources? AD, Radius, TACACS, etc.?
- *Users authentication to wired network using Active Directory and they come in remotely using VPN and authenticate using a Cisco ACS server to validate the active directory credentials. For wireless, users authenticate using Cisco ACS, then to active directory.*
41. Do the ISP's hand off an actual T1 connection or is it an Ethernet connection
- *All T-1's are actual T-1 with one exception. We have a T-1 over Ethernet to the King County Traffic Control Center. This is provided through the King County INET as part of our ISP services.*
42. Shall the RFP contain a proposal for an external management network and manageable PDU's?
- *This is not a requirement of the RFP.*
43. What type of fiber is currently being used and how is it terminated?
- *Single mode optical fiber with SC connectors*
44. Has the fiber been tested for loss and can it support 10GB speeds?
- *Yes, the longest runs of single mode fiber are currently supporting 10GB/sec Ethernet.*
45. What type of NMS tools currently exist and are actively being used?
- *We use some limited SNMP and also use a tool call Power Server Admin (also with some SNMP)*
46. What level of IDPS is currently deployed and what are the requirements around it?
- *We do not have a current IDPS but we anticipate deploying IDPS after this project is completed. If there are items which are responsive to this RFP (such as firewalls, routers, and switches) that also perform some components of IDPS, please identify that in your response. A separate IDPS system is not in-scope to this RFP.*
47. Is an L4 or L7 firewall required?
- *Yes, see network one-line.*

48. What are the inbound connection requirements for?
- VPN.
 - *A valid AD account with appropriate group membership*
 - External users.
 - *Same as above.*
 - Any type of externally-available services?
 - *Depends on the service.*
49. What are the security requirements for inter-site communications?
- *At some point in the near future, we will require L2 Tunneling and encryption between all sites. Proposers should be encouraged to include this in their designs*
50. Floor plan for each location, indicating dimensions and location of network closets
- *Each building is equipped with a single telecommunications room supporting all equipment and connections.*
51. For each network closet or datacenter, a count of how many switch ports are currently present, including speed of ports
- *Each building is equipped with a single telecommunications room supporting all equipment and connections. See one-line for quantity of ports*
52. Is the City currently using RFC 1918 address space for the IP addressing? Does the City intend on keeping the current IP scheme in place, or does the City intend on changing addressing? If the City has changes in mind, what would those be?
- *Yes, and there are no immediate plans to change the overall IP schema.*
53. Can the City share either pictures or a diagram of the current Kirkland data center rack layout?
- *Yes. See rack elevation drawings*
54. What level of link redundancy does the City hope to achieve? Should access layer switches or switch stacks be provisioned for dual links to the core switching system? Are there any redundant links to sites not in the City Hall?
- *The connection between city hall and the Bellevue data center are separate and redundant. Elements of redundancy and resiliency are desired where they can be incorporated in the proposed solution.*

55. Since the City requires replacement of Firewalls, will the City be retaining the Firewall rule configurations, or are changes necessary as part for the project?
- *There are no changes expected, but some change may be required depending on the equipment purchased as part of this project*
56. Has the City considered any identity services engines or BYOD initiatives as part of this project?
- *Specific applications to support identity services and BYOD are not a requirement of this RFP.*
57. Is there a diagram or description of fiber type and length for 10G and 1G fiber connections, both on site and long-haul? For short distance (less than 10 meters), we would suggest a CX cable solution rather than Fiber, for cost reductions, if acceptable.
- *One-line drawing indicates the associated buildings. All buildings are equipped with a single telecommunications room that houses all equipment and connections. Inter-site optical fiber is single-mode.*
58. Does the City have any required protocol specifications, such as Multicast, Video, QoS specifications, port security requirements, etc.?
- *There are no specifications available. The replacement infrastructure should support these items based on future needs of the infrastructure even if they are not currently configured. The successful vendor will be responsible for the final design and for implementing those items required to provide a complete and operational replacement infrastructure as described in the RFP.*
59. Network diagram question
- Intra-building - how many networking closets are there, how are they cabled to the MDF (fiber type and length), and how many switch ports are required for each closet.
 - *Each building is equipped with a single telecommunications room housing all equipment and connections.*
 - Inter-building – how are the buildings networked together (what connections are required between buildings) and what is the type and length of the fiber for these connections. Are these dark fiber dedicated connections or connections via a service provider with carrier equipment in the middle?
 - *Optical fiber backbone connections are dedicated, customer-owned single-mode fiber.*
60. Firewall/VPN question
- Redundancy

- Yes
 - Throughput required
 - *A minimum of 100MB but should support 1GB (T-Base as well as Fiber). It is possible that we may use the firewall(s) in the future to establish secure connections with other agencies using existing fiber.*
 - Number of SSL VPN connections required
 - *Currently, we can support up 150. It would be nice to be able to accommodate all VPN connectivity without the use of a thick client and have support for up to 250.*
 - In addition to a client based SSL VPN, is a web portal VPN page required
 - *Yes. We may in the future leverage some this functionality*
61. Please provide a Complete list of locations with address
- *This is not applicable to the project at this stage*
62. Will City of Kirkland provide a time to Walk thru the facilities before the bid is due? Since we are required to do site survey s after the install, we would like to verify paper designs (particularly for wireless).
- *There is no time for a walk-through prior to the responses being turned in. A walkthrough may be provided to finalist vendors. For the purposes of the RFP, current counts should be used for a pricing model. However, the city is aware that the final BOM and solution may vary a little depending on the solution*
63. You refer to supplier tested equipment prior to delivery, please clarify whether equipment can staged/tested on City of Kirkland data center or premises or must be done remotely.
- *The proposer should have the capacity to receive and test equipment at their facilities prior to installation at the customer site.*
64. What is the total number of ports required? Is that the same number as in the existing environment or will you require a buffer of additional ports for any future growth.
- *For the purposes of the RFP, the existing ports are what is required. The proposed solution should be scalable to support future increases in connected users. See addendum #1 for additional information related to port quantities*
65. Will your telecommunications backbone have the capability for 10 gig speed when this equipment is ready to be installed?
- *Yes.*

66. What network speed do you require at the user's desktop, Wireless Access Point, Edge switch?
- The switches are generally required, at a minimum, to support the existing connections and should be replaced "in-kind". Please see Addendum #1 for clarification related to switch ports originating in the existing Cisco 6513.*
67. What is the cabling infrastructure at the City of Kirkland facilities? More specifically, what is the copper cable (Cat5, 5E, 6, 6a) currently installed and how is fiber utilized (between MDF and IDFs?). This question is directly related to the network speeds you are requiring to be delivered to users and edge devices.
- Client devices are supported primarily with Category 5e cabling. Fiber backbone cabling between sites is single mode.*
68. Is the current network or any portion FIPS 140-2 compliant or require FIPS 140-2 compliance?
- Yes, all of the public safety segments (police and fire) are and should remain FIPS 140-2. This is mostly just PD at this point but we need to be able to continue supporting it as needed.*
69. For any connection that leaves a building are they (the communications) encrypted, Type-1, Suite-B, or IPsec?
- The only Encryption at this point is either SSL for web based applications and IPSEC for traffic going to and from police agencies (e.g. WSP, NORCOM, FBI, etc)*
70. Do you use L2TP or GRE (generic routing encapsulation) tunneling for any of your sites?
- No but we does use GRE between the firewalls and the CISCO Iron Port S160 Appliances*
71. How many remote users do you have?
- Can be up to 150 but average daily is less than 20*
72. Are there different levels of services needed per type of user or user connection?
- Yes, the network supports Cisco VOIP with QOS.*
73. Is multicast routing enabled in your network? What is your current MCast Design; and Future Design needs?
- MCast is used but only for voice at this point, and we don't know what the future holds in this area.*

74. Please clarify the PoE Standard requirement 802.3af @ 15.4 w per port or 802.3at @ 25.5w per port. (It impacts switch PS Requirement and Customer supplied Power/Outlets)
- *For the purposes of this RFP, the proposer shall be permitted to specify 802.3af (standard POE) for client connections.*
75. Please clarify the PoE requirements Access Switch vs. Server Farm Switch (Server Farm switches do not normally have POE since there are no end user POE device needs).
- *Final network design is the responsibility of the proposer. All client (end user) connections shall be configured with POE unless stated otherwise. Please see Addendum #1 for clarification related to switch ports originating in the existing Cisco 6513.*
76. Do you have any Bring Your Own Device policies or requirements?
- *People are allowed to bring their own devices and to access email on them. We do not have a BYOD plan that replaces city-provided devices or allows devices which are not owned by the city to connect directly to the network.*
77. Do you use Land Mobile Radios? Are they integrated into your current network?
- *Yes, but they are not integrated into the current network.*
78. Is the E911 Call Center IP based?
- *The E911 center is not a component of this RFP.*
79. Verify if the City of Kirkland-RFP- Enterprise Storage Replacement-Job # 32-12-IT, Due Date: August 2, 2012, 4:00 PM, and the City of Kirkland-RFP-Storage Area Network Replacement- Job # 31-12-IT, Due Date: August 2, 2012, 4 p.m. (Pacific Time), are these two different bid projects, and also if we have to register with the City as a Vendor "prior" to submitting our bid?
- *They are separate projects. Execution of the NDA is required to obtain the complete RFP documents. Other requirements to provide a proposal are included in the RFP.*
80. Is this a Cisco required bid for replacement equipment or will you accept equal alternatives?
- *Alternate manufacturers are acceptable*
81. Who is your telecommunications carrier? Is your network all fiber connected other than where noted on your diagram?
- *Carrier is not relevant to this RFP. All fiber and end equipment related to this RFP is customer owned. Other connections denoted as "demark" connections on the associated one-line are native T-1's.*

Wireless Section (note that wireless may be included as a part of other questions above)

82. Page 7 – Regarding the WLAN System, are existing coverage designs available for the planned distribution of the initial 150 APs or will these be developed as part of the overall Network Replacement Project? Is there an initial assessment of how many facilities will be covered by the initial AP count?

- *The final design of the wireless network is not available. Vendor shall propose quantity of devices as indicated in the RFP for bidding purposes. Final quantities and locations will be negotiated with the successful proposer.*

83. Regarding the Access Points labeled Parks and Kirk, can you go into more detail regarding what those are? Are they representative of multiple wireless access points? How are the access points connected to the Fiber?

- *Access points are connected to switches where indicated. The final design of the wireless network is not available. Vendor shall propose quantity of devices as indicated in the RFP for bidding purposes. Final quantities and locations will be negotiated with the successful proposer.*

84. Few Access Points and WLC are shown in the network diagram, though RFP mentions 150AP? Can CoK clarify? Will CoK share the locations of 150AP from Day1

- *The final design of the wireless network is not available. Vendor shall propose quantity of devices as indicated in the RFP for bidding purposes. Final quantities and locations will be negotiated with the successful proposer.*

85. Do you require Access Points that are indoor, outdoor, or a combination of both? If a combination, how many of each are required?

- *Both. Final quantities and locations will be negotiated with the successful proposer. We have the following currently installed:*

Building	Room	Model	Quantity
City Hall	Council Chambers	1242	4
	Peter Kirk Room	1231	3
	City Hall Count (less above-rooms)	"	14
Maintenance Center	Entire building	"	1
Fleet Shop	" "	"	1
Sign Shop	" "	"	1
Parks Maintenance	" "	"	2
Municipal Court	" "	"	4
North Kirkland Community Center	" "	"	2
Peter Kirk Community Center	" "	"	2

505 Market	" "	"	2
Fire Stations	21	"	2
	22	"	2
	24	"	1
	25	"	1
	26	"	2
	27	"	2
Outdoor Mesh Units	Downtown Kirkland	1510	15
Totals		1200 Series	46
		1500 Series	15

86. Park WIFI and KIRK WIFI, are these single AP or multiple APs at single location?
- *Single AP's at dedicated locations for KirkWifi and multiple AP's in each city building. All AP's support multiple SSID's.*
87. Can I have a current Wireless AP count per building, floor and closet they are terminated to?
- *See #85 for current AP counts per building. The final design of the wireless network is not available. Vendor shall propose quantity of devices as indicated in the RFP for bidding purposes. Final quantities and locations will be negotiated with the successful proposer.*
88. How many current wireless users, and expected growth in this population in next 3 to 5 years?
- *The final design of the wireless network is not available. Vendor shall propose quantity of devices as indicated in the RFP for bidding purposes. Final quantities and locations will be negotiated with the successful proposer.*
89. How do wireless users currently authenticate if different from wired users?
- *Users authenticate to wireless network using a Cisco ACS server to validate the active directory credentials.*
90. For the areas that need wireless coverage, are the ceilings standard office grids or are there hard-lids in play?
- *There is a mix of Hard Lid and grid in almost all buildings.*
91. What are the 'most common' usage scenarios for the wireless system?
- *Public wireless is by far the most heavily used. This includes the downtown mesh wireless network, and the public network in the buildings which is used by staff for their BYOD devices and personal computing needs, by vendors, by*

visiting lawyers at the court, and by citizens. However, we do have staff that regularly use the corporate segment (PKWiFi) when in meeting rooms.

92. Is VoIP over wireless on the roadmap?

- *We are already using some VoIP over 802.11 and plan to keep that practice in the future.*

93. With regards to the wireless network, will the City retain the existing Cisco 1500 AP's that are used in the outdoor wireless network? We are assuming the other AP's will be replaced, as well as a new controller system for the wireless network. Has the City considered the desire for additional features, such as CleanAir and 5 GHz channels?

- *All technologies will be considered including the potential replacement of the 1500/1200 AP's and the controller. Proposer should also keep in mind that the 1500's may need to co-exist with whatever solution is decided on.*

94. Wireless question

- Controller redundancy:
 - *Yes*
- Radios with A/B/G/N support or just B/G/N
 - *A/B/G/N*
- Number of radios to include
 - *Counts per RFP but successful proposer should plan to review counts and overall design for final BOM*

95. Do you require a Police band – 4.9 Ghz for wireless?

- *No*

96. Will you need Outside wireless for EMT, police, fire vehicles while the vehicle is parked at a precinct or station assuming a laptop with wireless in a vehicle?

- *No.*

97. Do we need to bid Wireless redundancy/VRRP on wireless controllers?

- *Final design is the responsibility of the proposer. Elements of resiliency and redundancy that contribute to a better environment are encouraged.*

98. Please Describe the intend use of the Wireless, indoor vs. outdoor; Warehouse vs. Office space vs. Auditorium; Low density vs. High density. This impacts AP selections and design.
- *Wireless use varies throughout the city. There are indoor AP's and outdoor mesh.*
99. Are there any requirements to scan the RF spectrum as a part of WLAN security?
- *Elements that contribute to easier management and resiliency are encouraged.*
100. Are there any locations that have RF Band restrictions for either the 2.4GHz or 5GHz?
- *No*
101. Do you have or require a Guest portal for WiFi users? What locations?
- *Yes – All locations*
102. What is the speed of the circuit and physical connection Kirkland Wi-Fi from the internet
- *This is a commercial service provided through Comcast and typically provides about 40MB of total bandwidth. Connection from the Kirkland owned equipment is 10/100*
103. Are Wireless devices government issued? Is there Bring Your Own Device in place or anticipated?
- *People are allowed to bring their own devices and to access email on them. We do not have a BYOD plan that replaces city-provided devices or allows devices which are not owned by the city to connect directly to the network.*
104. Are there wireless Apple devices being supported? iPad, for example.
- *Yes, including city-owned devices (which are thus able to connect to the network).*
105. Will Smartphones be supported on the wireless network such as Android, Apple iOS, Blackberry, or Windows Phone devices?
- *Yes*
106. Do we need to bid Wireless redundancy/VRRP on wireless controllers?
- *Final design is the responsibility of the proposer. Elements of resiliency and redundancy that contribute to a better environment are encouraged.*

107. Can you provide floor plans by location so we can do a wireless RF plan by location. This is important as you require a post install wireless survey, and the plans do not indicate where the Access Points are to be placed or the number per location.

- *The final design of the wireless network is not available. Vendor shall propose quantity of devices as indicated in the RFP for bidding purposes. Final quantities and locations will be negotiated with the successful proposer. Requirement for the site survey is to identify that the proposer has the ability to provide these services.*

Vendor List Question

108. Vendors who have provided intent to respond.

AT&T Government and Education (has withdrawn)
CenturyLink
Cerium Networks
Datec, Inc
Dell
Fujitsu Network Communications
InterVision Systems
Juniper Networks
LeVerage Information Systems
Lillian LLC Enterprise IT
Network Computing Architects
OptiStor Technologies, Inc
Presidio
Service Communications, Inc
Structured Communications Systems, Inc
TechPower Solutions, Inc
Trans-Tel
V2 Technology Solutions